Guest Editorial Preface

Special Issue on Medical Informatics

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We are very happy to publish this issue special issue of the International Journal of Healthcare Information Systems and Informatics (IJHISI).

This issue contains 5 articles. Achieving such a high quality of papers would have been impossible without the huge work that was undertaken by the Editorial Board members and External Reviewers. We take this opportunity to thank them for their great support and cooperation.

Medical Informatics is the interdisciplinary study of the design, development, adoption and application of IT-based innovations in healthcare services delivery, management and planning. It deals with the resources, devices, and methods required optimizing the acquisition, storage, retrieval, and use of information in health and biomedicine. The objective of this special issue is to bring together research contributions on the design, specification, and implementation of architectures, protocols, and algorithms for current and future Medical Informatics.

In “Designing the confirmatory factor analysis for Iranian nursing informatics competency”, a study was conducted to design psychometric instruments to determine the qualification of the informatics competencies of the employed nurses in the care educational centers. The designed tool can be used to develop the educational strategies in relation to nursing students in the field of informatics and making preparation for them in the rich environment of the information technology in the health care environment can be helpful in training nursing instructors.

In paper “Design and Implementation of Digital Asthma Diagnosis System”, the MSP430F149 is taken as the microcontroller (MCU), and pressure sensor MPX5100AP is used to measure body measurement of maximal forced expiratory volume (FEV) signal and peak expiratory flow rate (PEFR) signal. The two analog signals are processed by the signal conditioning circuit, and then the corresponding digital signals are acquired by the MCU. Finally, the patient’s condition analysis results are given directly on the LCD, which provided the objective indicators for the medical treatment of the disease. The digital asthma diagnosis system can meet the requirement of diagnostic accuracy.

In “Research on improved Apriori algorithm based on data mining in electronic cases”, a new Apriori algorithm based on event ID was proposed. This article aims at making the lifestyle-related diseases prediction system provide better service for people, for families and for the whole society. The prediction system can automatically give out health-related information of user after the person’s basic information put in, and it would also give out some pieces of valuable advice according to the result data, helping people realize self-health conditions.

In “Comparison of Genetic Variations in Zika Virus isolated from Different Geographic Regions”, sequence variation was examined in 10 genes from ZIKV isolated in different geographic regions to...
identify region-specific patterns of variation and gene characteristics. This research suggested that
differences in genetic variation among regions can explain the clinical differences reported around the
world. Recently, ZIKV pandemics have become an issue in Southeast Asia. To prevent the outbreak
of ZIKV in South Korea, which is geographically close to Southeast Asia, it is important to monitor
the genetic evolution and characteristics of each gene in the ZIKV genome.

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